Maine Department of Environmental Protection
Bureau of Land & Water Quality
O&M Newsletter
June 2006
A monthly newsletter for wastewater discharge licensees, treatment facility operators, and associated persons

Index

Ever think about working at DEP?

Occasionally, job opportunities at DEP do come up. There is a wide range of interesting jobs across the Department, including data management, environmental monitoring, assessment or evaluations, inspections and site investigations. These cover all functions within the Department: air quality, land use, solid waste, hazardous waste, water quality and, yes, wastewater treatment. While the turn-over rate is not too great, openings do become available from time to time. A key to being considered is to have filed an application in advance.

A common job classification for entry level professional work at DEP is Environmental Specialist II (ES II). This type position requires a Bachelor's Degree which includes 15 credit hours of science or engineering (many DEP staffers have majors in these fields). However, a four year combination of education and/or experience in an environmental science or related area may be substituted for a degree. Another related job class, Environmental Specialist III (ES III), is also used to fill vacancies at DEP, although less frequently. This category requires a total of six years of education and experience, including two years of environmental experience. Specialized training and professional certifications can sometimes give a person an advantage in the hiring process.

The State hires in several ways. People are most commonly recruited into positions such as ES II or III through the Open Competitive and Promotional process. For more information about these jobs and application materials, you can go to www.maine.gov/statejobs/alpha_list.htm on the web. The process involves filing an application to get on a register of eligible

candidates. If a job opens up in a particular job class, the persons to be interviewed for hiring are taken from that register.
If you'd like to know more about the Department and the types of work it does, you can also talk to a current DEP staff person. Check it out – you never know.

Dennis Merrill

Catch Basin Clean Out

Late last summer, an incident occurred in the mid-coast region that put the environmental spotlight on, of all things, stormwater catch basins. You may think: "Catch basins - what could go wrong there"? In fact, though there was very little if any actual environmental impact from this incident, it brought to light a need to take a closer look at cleaning procedures. Any state or municipal agencies (often Waste Treatment Plant personnel are called on to manage or assist with this activity), or private contractors that are involved in the perennial process of catch basin clean out should read on.

The incident we're discussing involved a private contractor working for a government agency. The contractor's approach on the street was to rinse down & vacuum out a series of stormwater catch basins. When the vactor truck's tank was full, the operator discharged the "water" phase of the material into the last basin cleaned. After one or more cleaning cycles like this, the last load of "water" was discharged, and the remaining "solids" left in the truck's tank were hauled to a site specified for disposal. Because the "water" disposal here discharged directly into a popular & fairly sensitive watershed, local citizens and businesses became alarmed when they saw it; subsequent investigation found some high bacteria concentrations in the residual water in the catch basins. Speculation was widespread, and the contractor and agencies involved suffered some pretty adverse publicity, while much time and resources were expended in determining the nature & extent of the bacterial contamination. A local sanitary survey found no cross connections, while follow up sampling found that the problem diminished and went away before long and that subsequent rain events resulted in "normal" bacterial concentrations in the local stormwater discharges (it is normal to have elevated bacteria scores in catch basins). Had the sanitary survey found any inappropriate connections that might have indicated an alternative explanation for the high bacteria counts. Additionally a check on the work history of the vactor truck did not ultimately indict it as a suspect source of contamination. By process of elimination it was concluded that the most likely source of the bacterial contamination was the cleanup process itself.

The fundamental error was the assumption that it was "O.K." to discharge from the vactor tank back into a basin during or at the completion of the cleanout job. The rationale was that it "only" was, to paraphrase, "the same water that was drawn out in the first place, which runs through the system and discharges at the same point anyway." Well, not exactly. It's really a cleaning cycle's worth, perhaps an entire season's worth of stuff that has fallen, dripped, discharged, or been excreted onto the pavement, sidewalks, lawns & roofs draining into the basins. That's more than just sand, dirt, paper, and other inert materials. In fact, the longer the accumulation at the bottom of a basin is held there, and the richer in organic "bug food" that accumulation is, the more likely that a good flushing will release bacteria or other un-wanted materials into the watershed. A day or two after a normal late summer or early fall rain storm, go out to a basin and take a bacteria sample from the surface of the water at the bottom; just skim near the top. Then, stir up the entire basin's contents and take another sample – you'll see the difference.

The Department Of Transportation is currently putting the finishing touches on a catch basin clean out SOP. At a minimum, vactor crews need to approach the task as a "one way" process; i.e., that everything, water, solids, and wash water should be vacuumed into the truck and hauled to an approved site that does not impact waters of the state. Nothing from the truck goes back into the basin. This may mean that the crew needs to make some additional trips to the disposal site, and that a somewhat greater level care should be taken when choosing a disposal site, but the payoff is cleaner water, which is good for everyone.

Jim Crowley

Approved Training

June 20, 2006 in Bangor, ME – Pump Stations O & M - sponsored by WPETC 1-888-621-8156 – Approved for 5 hours
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June 21, 2006 in Brunswick, ME – Lagoon Day - sponsored by MRWA (207) 729-6569 – Approved for 4.25 hours
*****
June 22, 2006 in Corinna, ME – Lagoon Day - sponsored by MRWA (207) 729-6569 – Approved for 5 hours
*****
July 18, 2006 in Saco, ME – Uniform traffic Control & Flagging - sponsored by WPETC 1-888-621-8156 – Approved for 3.5 hours
*****
July 20, 2006 in Bangor, ME – Uniform traffic Control & Flagging - sponsored by WPETC 1-888-621-8156 – Approved for 3.5 hours
*****
July 27, 2006 in Presque Isle, ME – Uniform traffic Control & Flagging - sponsored by WPETC 1-888-621-8156 – Approved for 3.5 hours
*****
Note: JETCC stands for Joint Environmental Training Coordinating Committee
MRWA stands for Maine Rural Water Association
MWWCA stands for Maine Wastewater Control Association
NEIWPCC stands for New England Interstate Water Pollution Control Commission
WPETC stands for Wright Pierce Environmental Training Center.

2006 Cost of Clean and Safe Water Survey Hits the Press

The New England Interstate Water Pollution Control Commission (NEIWPCC) has recently release the May 2006 report entitled, *The Cost of* ***Clean and Safe Water*** *– Sustaining Our Water Infrastructure.* This report was a joint project of NEIWPCC, EPA New England, the New England States, and New York State. Copies of the report will be mailed to those communities that participated in the survey sometime in June. In the meantime, anyone is welcome to visit NEIWPCC's web site at www.neiwpcc.org and download the report from the "What's New" area of their Homepage.

In 1995, NEIWPCC, EPA New England, and the New England states worked to develop a methodology to assess and better understand the financial impact that complying with wastewater, drinking water, and solid waste management regulations placed on our communities. The results of the effort were presented in the report *Projected Household Costs of Mandated Environmental Infrastructure Investments*. With 10 years having passed, it was decided to update the report, but this

time focusing only on the cost of wastewater and drinking water. Since most solid waste projects are complete, the communities were not asked to provide data for them.

Communities were asked to provide a variety of information, some of which was; present user charge information, number of users, revenue resources, current debt service, and anticipated future capital project expenses, to name just a few. The data was entered into a model that calculated the highest user charge that a community was likely to see within the next 20 years.

The new 46 page report includes lists, tables, and figures that offer a snapshot of the costs of sustaining drinking water and wastewater infrastructure. Through analysis of the data, the report estimates the maximum user charge that a community might expect to see within the next 20 years. This information should be useful to communities to help check cost projections developed by others. Most importantly, the results provide general guidelines of what might be considered "typical" system costs.

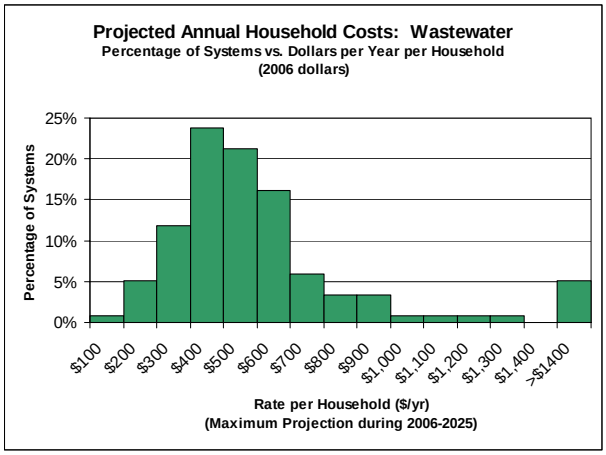
The report collected information from 92 drinking water systems and 118 wastewater systems throughout New England and New York. In Maine, 9 drinking water systems and 26 wastewater systems participated in the survey. I would like to thank each of those communities for taking the time to provide the needed data for the survey.

On the wastewater side, Maine has 162 Publicly Owned Treatment Works (POTWs). Of these, 40 systems were contacted and requested to participate in the survey. These communities were selected by size and type of treatment system to give an overall representative sample of communities in Maine. Twenty-six communities completed and returned the survey.

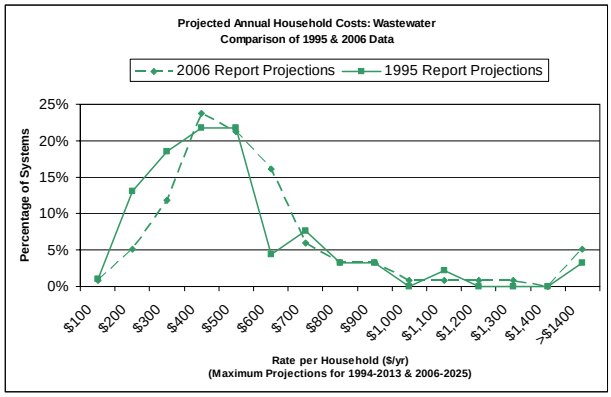
Here are some region wide wastewater highlights from the NEIWPCC report:

- Based on model results, almost one-half of the communities will experience future rates ranging from $300 to $500 per year in the next 20 years.
- Over the next 20 years, rates will double for one-quarter of systems.
- Fifty percent of the households served by the systems are expected to pay less than 1.0 percent of their median household income for wastewater services in the next 20 years;
- Almost one-third are expected to pay between 1.0 and 1.5 percent of MHI.
- Twenty-one communities may incur costs exceeding 1.5 percent MHI.

The following figure (taken from the draft report) illustrates the projected annual household costs for wastewater.



For comparison, the following chart (also taken from the draft report) shows the maximum rates from the 1995 and 2006 reports. Note that the curves are still quite similar, but the 2006 curve has shifted to the right (higher cost). This shows that the 2006 model is predicting a higher maximum user cost than the 1995 model had predicted. At first this seems to indicate that the model underestimates future maximum costs. But if you think about it, the 2006 model estimates costs out 12 years past the 1995 model and therefore should be predicting a higher maximum cost.



The report provides many more tables and figures that are of interest. Some are specific to our Maine communities, but unfortunately they are too large to include in the newsletter. I encourage you to go online and view the report in its entirety at NEIWPCC.

Thanks again to all of the Maine communities and wastewater professionals that took time out of their busy schedules to help make this report possible.

John True

DMR-QA Study 26 Required Analytes For 2006

As the State DMR-QA Coordinator, I have been getting calls about which tests will be required for DMR-QA this year. The April 27, 2006 letter from Michael M. Stahl, Director, Office of Compliance, USEPA begins on the third page of the Study 26 Announcement booklet that was sent only to the permittees that are required to participate in DMR-QA. It states that you are responsible only for those analytes that are both in your permit and included in Study 26. In a similar fashion, for WET tests, you are responsible only for test organisms that are both in your permit and included in Study 26. Also, WET testing is required only if you are required to do WET testing under your NPDES/MEPDES permit during 2006.

Please note that there have been quite a few aditions to the Chemistry /Microbiology Analyte Checklist for DMR-QA Study 26. You should review these two pages very closely to be sure that you order any newly available analytes for 2006. The major difference for many of you is the availability of microbiological unknowns. Coastal WWTFs will have to add Fecal Coliform as it appears on their permits. Inland WWTFs will not be required to do Fecal Coliform this year. However, several Provider labs use E. coli as the bacterium to create the Fecal Coliform unknown. I know that Environmental Resource Associates (ERA) does this. Other Providers may be doing the same thing. Ask them to be certain. Inland WWTFs may wish to voluntarily use the Fecal Coliform analyte as their sample for E. coli quality assurance. Be sure to discuss this with your Provider lab before ordering the analyte. They would have to be able to evaluate your E. coli test

results from their Fecal Coliform unknown Lot Number.

Many will have to add Settleable Solids this year. Look at Trace Metals and Nutrients for analytes present on your current permit as well. You may not have reviewed this very closely in the past, but there are changes this year.

Also, any analytes done for you by a commercial laboratory should be done for all clients routinely every year as part of the customer service provided by the commercial laboratory. Just send them a copy of your Analyte Checklist with their analytes checked. (See Page 7 of your booklet for instructions.) You should not have to pay for any unknowns from your Provider lab for contract testing by your commercial lab

Call me at 287-4869 with any questions on the analytes required this year.

Ken Jones

Total P and Ortho P Sampling

Many of you have total phosphorus or orthophosphate monitoring requirements in your Permits. The Department has updated its guidance for collecting and analyzing these samples. If you are collecting orthophosphate samples you must filter those within 15 minutes of collection. If you are collecting total phosphorus samples you have the option of acidifying those samples in the field or upon arrival in the laboratory. Please read the guidance below and feel free to contact your inspector if you have any questions. Enjoy your summer!

Clarissa Trasko

Attachment A

Protocol for Total P Sample Collection and Analysis for Waste Water and Receiving Water Monitoring Required by Permits

Approved Analytical Methods: EPA 365.2, SM 4500-P B.5 E

Sample Collection: The Maine DEP is requesting that total phosphorus analysis be conducted on composite effluent samples, unless a facility's Permit specifically designates grab sampling for this parameter. Facilities can use individual collection bottles or a single jug made out of glass or polyethylene. Bottles and/or jugs should be cleaned prior to each use with dilute HCL. This cleaning should be followed by several rinses with distilled water. The sampler hoses should be cleaned, as needed.

Sample Preservation: During compositing the sample must be at 0-4 degrees C. If the sample is being sent to a commercial laboratory or analysis cannot be performed the day of collection then the sample must be preserved by the addition of 2 mls of concentrated H_2SO_4 per liter and refrigerated at 0-4 degrees C. The holding time for a preserved sample is 28 days.

Note: Ideally, Total P samples are preserved as described above. However, if a facility is using a commercial laboratory then that laboratory may choose to add acid to the sample once it arrives at the laboratory. The Maine DEP will accept results that use either of these preservation methods.

QA/QC: Run a distilled water blank and at least 2 standards with each series of samples. If standards do not agree within 2% of the true value then prepare a new calibration curve.

Every month run a blank on the composite jug and sample line. Automatically, draw distilled water into the sample jug using the sample collection line. Let this water set in the jug for 24 hours and then analyze for total phosphorus. Preserve this sample as described above.

Clarissa Trasko

Attachment B

Protocol for Orthophosphate Sample Collection and Analysis for Waste Water and Receiving Water Monitoring Required by Permits

Approved Analytical Methods: EPA 365.2, SM 4500-P.E

Sample Collection: The Maine DEP is requesting that orthophosphate analysis be conducted on composite effluent samples unless a facility's Permit specifically indicates grab sampling for this parameter. Facilities can use individual collection bottles or a single jug made out of glass or polyethylene. Bottles and/or jugs should be cleaned prior to each use with dilute HCL. This cleaning should be followed by several rinses with distilled water. The sampler hoses should be cleaned, as needed.

Sample Preservation: During compositing the sample must be at 0-4 degrees C. The sample must be filtered immediately (within 15 minutes) after collection using a pre-washed 0.45-um membrane filter. Be sure to follow one of the pre-washing procedures described in the approved methods. Also, be aware that you will likely want to use a designated suction hose and collection container for the orthophosphate filtering process. If the sample is being sent to a commercial laboratory or analysis cannot be performed within 2 hours after collection then the sample must be kept at 0-4 degrees C. There is a 48-hour holding time for this sample although analysis should be done sooner, if possible.

QA/QC: Run a distilled water blank and at least 2 standards with each series of samples. If standards do not agree within 2% of the true value then prepare a new calibration curve.

Every month run a blank on the composite jug and sample line. Automatically, draw distilled water into the sample jug using the sample collection line. Let this water set in the jug for 24 hours and then filter and analyze for orthophosphate. Preserve this sample as described above.

Clarissa Trakso